Git :

Linus Torvalds created git software.

Github is hosting website, which hosts git repositories.

Version controlling tool for managing source code versions, files.

Initially, we used local version control system- to store source code locally in system.

Git is **distributed** version controlling system.

Files are stored in separate centralized server and files can be pulled into systems and modified by multiple users individually and pushed back.

If server crashes, we will lose the complete project, for that reason we introduced distributed version control system.

Difference between centralized vcs and distributed vcs is, for distributed system when each person who pulls the file for modification will get the complete project backup repo into his system.

Git Characteristics:

Captures screenshot of the version, not differences

.git file will be created with all versions, we can choose specific version

Almost every operation is local in system and push into the repo.

Git has integrity, every file has checksum value, so the file should have same checksum when pulled from repo.

Git generally only adds data.

Launch git bash terminal and enter git for displaying all commands

Navigate to the project using gitbash

Authenticate yourself first using username, email

git config --global user.name “varunappalla93”

git config --global user.email “[an.varun1993@gmail.com](mailto:an.varun1993@gmail.com)”

git config --list –> for diplaying username and email details

git config user.name -> for displaying username

git config user.email -> for displaying email

Git stage architecture:

Working directory(local system) 🡪Staging area🡪git directory(repository)

(commit area)

All the files will be stored in “.git” hidden folder.

git status – >fatal: not a git repository (or any of the parent directories): .git

git init -> Create a new repo of that folder -> Initialized empty Git repository in C:/Users/VARUN/Desktop/Varun Personal/GitTutorial/.git/

Now again enter

git status-> $ git status

On branch master

No commits yet

Untracked files:

(use "git add <file>..." to include in what will be committed)

Git.docx

mydb.accdb

myexcel.xlsx

~$Git.docx

nothing added to commit but untracked files present (use "git add" to track)

git add --a -> add all files to staging area.

git status -> $ git status

On branch master

No commits yet

Changes to be committed:

(use "git rm --cached <file>..." to unstage)

new file: Git.docx

new file: mydb.accdb

new file: myexcel.xlsx

new file: ~$Git.docx

git commit –m “My initial commit” -> to commit (to capture screenshot)

[master (root-commit) 2882db5] myfirstcommit

4 files changed, 0 insertions(+), 0 deletions(-)

create mode 100644 Git.docx

create mode 100644 mydb.accdb

create mode 100644 myexcel.xlsx

create mode 100644 ~$Git.docx

git log – to view logs of commits

commit 2882db58c119b5f54d0cb6a4ae1ffecba4c48243 (HEAD -> master)

Author: varunappalla93 <an.varun1993@gmail.com>

Date: Fri Oct 16 14:07:58 2020 +0530

myfirstcommit

Now modify “Git” and other few documents

git status

On branch master

Changes not staged for commit:

(use "git add <file>..." to update what will be committed)

(use "git restore <file>..." to discard changes in working directory)

modified: Git.docx

Untracked files:

(use "git add <file>..." to include in what will be committed)

~WRL2872.tmp

no changes added to commit (use "git add" and/or "git commit -a")

commit only Git document

git add Git.docx 🡪 to add that file

git status 🡪

On branch master

Changes to be committed:

(use "git restore --staged <file>..." to unstage)

modified: Git.docx

Untracked files:

(use "git add <file>..." to include in what will be committed)

~WRL2872.tmp

Now this doc is added, commit it

Git commit –m “Changed the doc file”

$ git commit -m "Changedds"

[master ab1a7d0] Changedds

1 file changed, 0 insertions(+), 0 deletions(-)

Git status 🡪

VARUN@DESKTOP-ELE4DCA MINGW64 ~/Desktop/Varun Personal/GitTutorial (master)

$ git status

On branch master

Untracked files:

(use "git add <file>..." to include in what will be committed)

~WRL2872.tmp

nothing added to commit but untracked files present (use "git add" to track)

git log🡪

$ git log

commit ab1a7d0f8d620b4038e09a16f8454cf3c97c5ab1 (HEAD -> master)

Author: varunappalla93 <an.varun1993@gmail.com>

Date: Fri Oct 16 14:14:56 2020 +0530

Changedds

commit 45174bf370616d91d0fb1566240bb200b727a53a

Author: varunappalla93 <an.varun1993@gmail.com>

Date: Fri Oct 16 14:13:12 2020 +0530

Changed

commit 2882db58c119b5f54d0cb6a4ae1ffecba4c48243

Author: varunappalla93 <an.varun1993@gmail.com>

Date: Fri Oct 16 14:07:58 2020 +0530

myfirstcommit

Clone a